

IN THE CLAIMS:

- 1 1. (Original) A removable nonvolatile memory device for use in a file server having
2 an operating system kernel, comprising:
3 a plurality of partitions, each of the plurality of partitions capable of storing dif-
4 ferentiated information;
5 a first kernel image, the first kernel image stored in a first partition of the plurality
6 of partitions; and
7 a second kernel image, the second kernel image stored in a second partition of the
8 plurality of partitions.
- 1 2. (Original) The removable nonvolatile memory device of claim 1, wherein the sec-
2 ond kernel image is a last known good kernel.
- 1 3. (Original) The removable nonvolatile memory device of claim 1, wherein the file
2 server
3 further comprises a set of boot instructions including instructions for booting from the
4 first kernel image.
- 1 4. (Original) The removable nonvolatile memory device of claim 3, wherein the set
2 of boot instructions further comprises instructions for booting from the second kernel im-
3 age if an error event occurs during booting from the first kernel image.
- 1 5. (Original) The removable nonvolatile memory device of claim 1, further compris-
2 ing a set of diagnostic software, the diagnostic software stored in a third partition of the
3 plurality of partitions.

1 6. (Original) The removable nonvolatile memory device of claim 5, further compris-
2 ing a diagnostic log, the diagnostic log stored in a fourth partition of the plurality of parti-
3 tions.

1 7. (Original) A file server system for a computer having a processor, a memory cou-
2 pled to the processor, and a system bus to which the memory and processor are coupled,
3 the computer having an operating system kernel and being configured to implement a file
4 system, the file server system comprising:
5 a removable nonvolatile memory device coupled to the system bus, the removable
6 nonvolatile memory device having a plurality of partitions, wherein a first partition of the
7 plurality of partitions containing a kernel image; and
8 a set of boot instructions resident in the file server system including instructions
9 for booting from a first set partition of the removable nonvolatile memory device and in-
10 structions for booting from an alternate set partition of the removable nonvolatile mem-
11 ory device if an error event occurs during booting from the first set partition.

1 8. (Original) The file server system of claim 6 wherein the removable nonvolatile
2 memory device is a compact flash.

1 9. (Original) The file server system of claim 6 wherein the removable nonvolatile
2 memory device further comprises a second partition of the plurality of partitions, the sec-
3 ond partition containing a last known good kernel image.

1 10. (Original) The file server system of claim 6, wherein the set of boot instructions
2 are contained in firmware within the file server system.

1 11. (Original) The filer server system of claim 6 further comprising a third partition
2 of the plurality of partitions, the third partition containing diagnostic software.

1 12. (Original) The filer server system of claim 10 further comprising a fourth partition
2 of the plurality of partitions, the fourth partition containing a diagnostic log.

1 13. (Original) A method for installing a new kernel image to a removable nonvolatile
2 memory device having a plurality of partitions in a file server system comprising the
3 steps of:

4 storing the new kernel image on a storage device;
5 copying a current boot kernel from a current boot kernel location to a last known
6 good kernel location; and
7 copying the new kernel image to the current boot kernel location.

1 14. (Original) The method of claim 11, wherein the current boot kernel location is a
2 first partition of the removable nonvolatile memory device.

1 15. (Original) The method of claim 11, wherein the last known good kernel location
2 is a second partition of the removable nonvolatile memory device.

1 16. (Original) The method of claim 11, wherein the storage device further comprises
2 one or more storage disks operatively interconnected tot he file server system.

1 17. (Original) A computer-readable medium operating on a computer in a network
2 that includes a removable nonvolatile memory device having a plurality of partitions, the
3 computer-readable medium including program instructions for performing the steps of:

4 storing a new kernel image on a storage device;
5 copying a current boot kernel from a current boot kernel location to a last known
6 good kernel location; and
7 copying the new kernel image to the current boot kernel location.

1 18. (Original) A method for installing an upgrade kernel in a computer system having
2 a removable nonvolatile memory device, the removable nonvolatile memory device hav-
3 ing at least a first partition and a second partition, the computer system currently execut-
4 ing a copy of an old kernel stored in the first partition of the removable nonvolatile mem-
5 ory device, the method comprising the steps of:

6 copying the old kernel from the first partition to the second partition;
7 adjusting a set of boot variables so that the computer will boot from the second
8 partition;
9 copying a stored copy of the upgrade kernel to the first partition; and
10 adjusting the set of boot variables so that the computer will boot from the first
11 partition.

1 19. (Original) The method of claim 16 further comprising the step of:
2 verifying the copy of the old kernel written to the second partition before adjust-
3 ing the set of boot variables so that the computer will boot from the second partition.

1 20. (Original) The method of claim 17 further comprising the step of :
2 verifying the copy of the upgrade kernel to the first partition before adjusting the
3 set of boot variables so that the computer will boot from the first partition.

1 21. (Original) A method for installing an upgrade kernel in a computer system having
2 a removable nonvolatile memory device, the removable nonvolatile memory device hav-
3 ing at least a first partition and a second partition, the computer system currently execut-
4 ing a copy of an old kernel stored in the second partition of the removable nonvolatile
5 memory device, the method comprising the steps of:

6 outputting a message to a user alerting the user that the computer booted from a
7 last known good kernel;
8 adjusting a set of boot variables so that the computer will boot from the second
9 partition;

10 copying a stored copy of the upgrade kernel to the first partition; and
11 adjusting the set of boot variables so that the computer will boot from the first
12 partition.

1 22. (Original) The method of claim 19 further comprising the step of :
2 verifying the copy of the upgrade kernel to the first partition before adjusting the
3 set of boot variables so that the computer will boot from the first partition.

Please add New Claims 23 *et seq.*

1 23. (New) Electromagnetic signals propagating ion a computer network, comprising:
2 Said electromagnetic signals carrying instructions for execution on a processor for the
3 practice of storing information in a computer data storage system comprising,
1 storing a new kernel image on a storage device;
2 copying a current boot kernel from a current boot kernel location to a last known
3 good kernel location; and
4 copying the new kernel image to the current boot kernel location.